

WHAT IS CLAIMED IS:

1. A lens barrel comprising:
 - a first frame including a first frame portion having an optical axis of said lens barrel, a second frame portion, a third frame portion, a first connecting portion for connecting said first frame portion to said second frame portion, and a second connecting portion for connecting said second frame portion to said third frame portion;
 - a second frame including a fourth frame portion having an optical axis of said lens barrel, a fifth frame portion, a sixth frame portion, a third connecting portion for connecting said fourth frame portion to said fifth frame portion, and a fourth connecting portion for connecting said fifth frame portion to said sixth frame portion;
 - first adjusting members provided in said second and third frame portions, respectively, and adapted to perform inclination adjustment of the optical axis; and
 - second adjusting members provided in said fifth and sixth frame portions, respectively, and adapted to perform translation adjustment of said fourth frame portion in a plane orthogonal to the optical axis.
2. The lens barrel according to claim 1, further comprising:

a seventh frame stowing the first frame and the second frame, wherein said first, second and third frame portions are provided in such a manner as to be able to be inserted into said seventh frame, and wherein at least one of said first and second adjusting members are able to be adjusted exteriorly of said seventh frame.

3. The lens barrel according to claim 1, wherein said first frame portion has an optical device.

4. The lens barrel according to claim 1, wherein at least one of said adjusting members comprises a screw.

5. The lens barrel according to claim 4, wherein a frame portion which abuts against said screw, has a sloped surface at an abutting part thereof.

6. The lens barrel according to claim 1, wherein said first and second adjusting members are adjusted from a direction perpendicular to the optical axis.

7. The lens barrel according to claim 1, wherein said first, second and third frame portions of said first frame are formed in such a manner as to be integral with one another.

8. The lens barrel according to claim 1, wherein said fourth, fifth, and sixth frame portions of said second frame are formed in such a manner as to be integral with one another.

9. A lens barrel comprising:

a guide member;
a first moving frame guided by the guide member, said first moving frame including a first frame portion having an optical axis of said lens barrel, a second frame portion, a third frame portion guided by said guide member in a direction of the optical axis, a first connecting portion for connecting said first frame portion to said second frame portion, and a second connecting portion for connecting said second frame portion to said third frame portion;

a second moving frame guided by the guide member, said second moving frame including a fourth frame portion having an optical axis of said lens barrel, a fifth frame portion, a sixth frame portion guided by said guide member in a direction of the optical axis, a third connecting portion for connecting said fourth frame portion to said fifth frame portion, and a fourth connecting portion for connecting said fifth frame portion to said sixth frame portion;

first adjusting members provided in said second and third frame portions, respectively, and adapted to perform inclination adjustment of the optical axis; and

second adjusting members provided in said fifth and sixth frame portions, respectively, and adapted to perform translation adjustment of said fourth frame portion in a plane orthogonal to the optical axis.

10. The lens barrel according to claim 9, wherein said first, second and third frame portions are provided in such a manner as to be able to be inserted into said guide frame, and wherein at least one of said first and second adjusting members is able to be adjusted from outside of said guide frame.

11. The lens barrel according to claim 9, wherein said first frame portion has an optical device.

12. The lens barrel according to claim 9, wherein said adjusting member is a screw.

13. The lens barrel according to claim 12, wherein said frame portion abutting against said screw, which is said first adjusting member, has a sloped surface of an abutting part thereof.

14. The lens barrel according to claim 9, wherein said first and second adjusting members are adjusted from a direction perpendicular to the optical axis.

15. The lens barrel according to claim 9, wherein said first, second and third frame portions of said first moving frame are formed in such a manner as to be integral with one another.

16. The lens barrel according to claim 9, wherein said fourth, fifth, and sixth frame portions of said second moving frame are formed in such a manner as to be integral with one another.

17. A lens barrel, comprising:

a stationary lens holder having an optical axis associated therewith;

a first lens assembly supporting a first lens and a second lens assembly supporting a second lens, the first and second lens assemblies being supported within said lens alongside one another in the direction of the optical axis of the lens holder, the lens of the first lens assembly having its respective optical axis and the lens of the second assembly having its respective optical axis;

an adjusting mechanism for the first lens assembly which enables translation of the lens optical axis of the first assembly in a direction perpendicular to the optical axis of the lens holder and a second adjusting mechanism for the second lens

assembly that enables adjusting an angle of inclination of the lens thereof relative to the optical axis of the lens holder.

18. The lens barrel of claim 17, in which the first lens assembly comprises outer, intermediate, and inner concentric frames, with the inner frame holding the lens thereof and the position of the inner frame being adjustable by the first adjusting mechanism relative to the outer frame.

19. The lens barrel of claim 17, in which the second lens assembly comprises outer, intermediate, and inner concentric frames, with the inner frame holding the lens thereof and the position of the inner frame being adjustable by the second adjusting mechanism relative to the outer frame.

20. The lens barrel of claim 17, in which the first adjusting mechanism comprises at least one threadable screw that is threadable in a general direction orthogonal to the optical axis of the lens holder.

21. The lens barrel of claim 17, in which the first adjusting mechanism comprises first and second screws that have threading directions which are perpendicular to one another.

22. The lens barrel of claim 17, further comprising a rotatable cam ring disposed around the lens holder and including camming surfaces which are engaged with corresponding camming projections of the first and second lens assemblies, in a manner which enables translating the position of the first and second lens assemblies back and forth substantially along the optical axis of the lens holder.

23. The lens barrel of claim 18, including resilient material disposed between the outer, intermediate and inner frames of the first lens assembly.

24. The lens barrel of claim 18, including resilient material disposed between the outer, intermediate and inner frames of the second lens assembly.

25. The lens barrel of claim 17, in which the second adjusting mechanism comprises at least one screw with a conically shaped tip that interact with a complimentarily shaped surface of the inner frame of the second lens assembly.